Exclusive, Diffractive and Tagging PWG

Raphael Dupre, Rachel Montgomery

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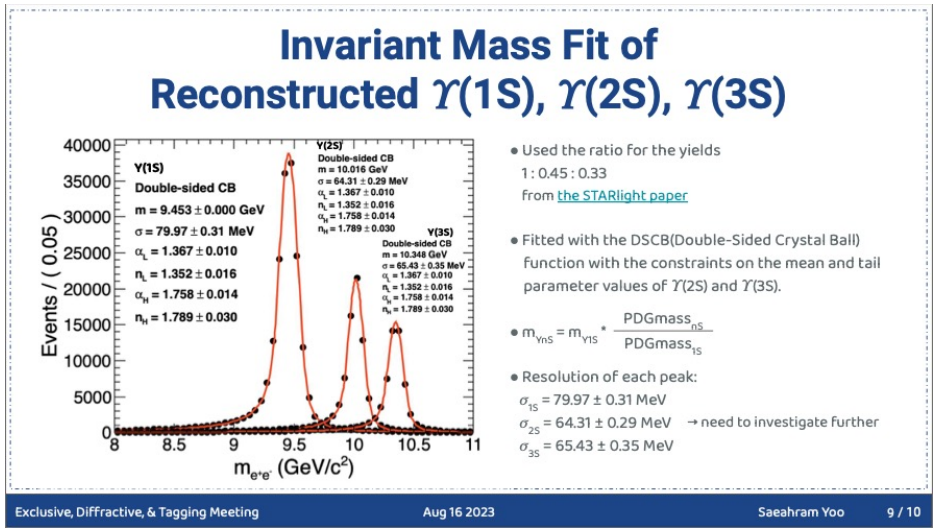
Logistics

- Meet Mondays at noon ET roughly every couple of weeks
  - Mailing list: eic-projdet-excldiff-l@lists.bnl.gov
  - Indico: https://indico.bnl.gov/category/419/
  - Contact e-mails:
    - raphael.dupre@ijclab.in2p3.fr
    - Rachel.Montgomery@glasgow.ac.uk

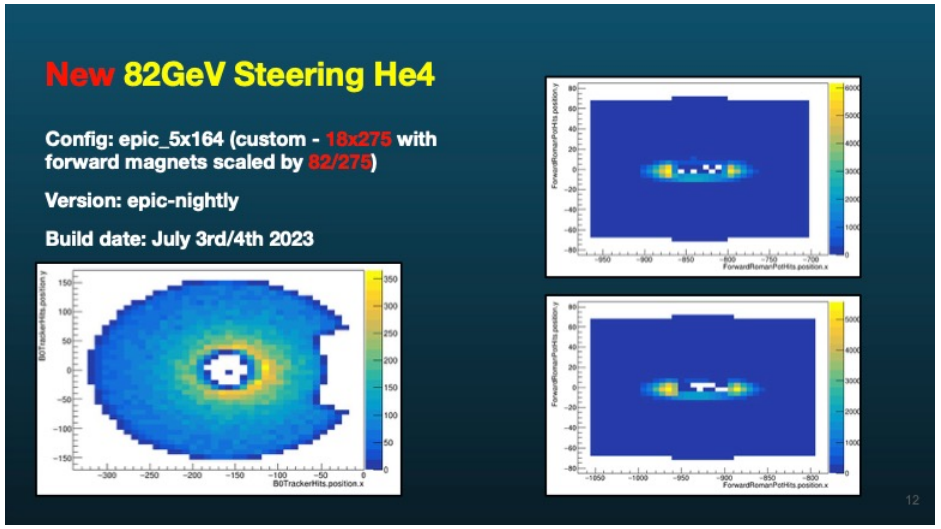
- Plan to update the wiki
  - Complex to assess how "alive" are the analysis

- Plan to poll mailing list to check time (some weeks clash w/ incl.)

Activities Reported on since Collaboration Meeting

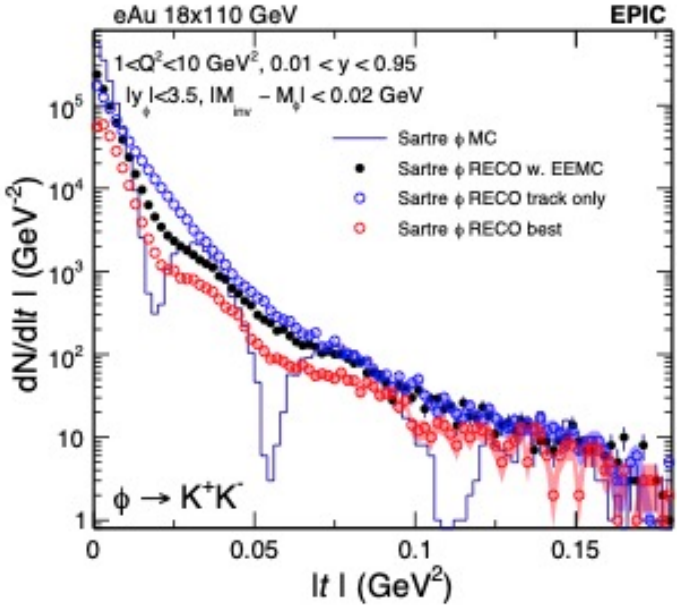


- Simulation analysis updates presented:
  - eAu upsilon production (S. Yoo with M. Kim and S. Klein)
  - DVCS eA (G. Penman)



- Next meeting: 11th Sept 23
  - Agenda so far:
    - deuteron breakup study Z. Tu;
    - coherent VM production M. Pitt, Z. Citron;
    - Backwards rho production Z. Sweger
    - hopefully some B0 study status updates from analysers (see later)
    - …

Benchmarks



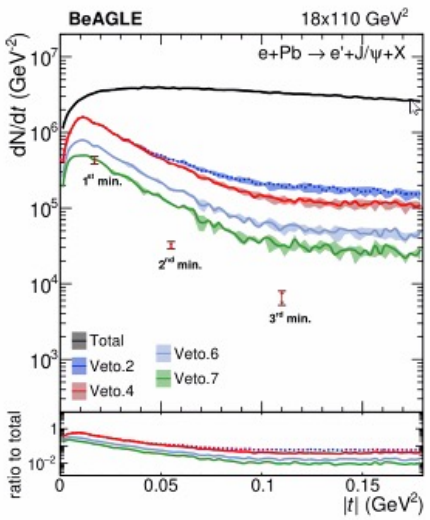


FIG. 4. Distribution of the momentum transfer $|t|$ for incoherent J/ψ production in ePb collisions with 18 GeV on 110 GeV at the EIC. Different lines indicate results after different vetoing requirements.

- Vector meson production eA->e+VM+X (Kong Tu)
  - Benchmark scripts for phi and eAu at top energy config
  - Submitted to production team July, but need to include phi samples in production campaign, contacted for Aug campaign
  - https://github.com/KongTu/EICreconOutputReader/tree/benchmark-july-2023
  - |t| resolution, dsigma/dt, DIS control plots (kinematics)

- Potential/future next benchmarks in preparation expected soon:
  - Backwards rho production (good benchmark of B0 and ZDC) (Z. Sweger)
  - Incoherent VM (rho, phi, j/psi) production in eA (good test of veto in FF) (M. Pitt)

- Would like to develop a tagged process benchmark like e.g. tagged DVCS

Upcoming B0 Studies

- FF instrumentation crucial for exclusive physics

- 21 Aug: A. Jentsch reported on B0 DD4HEP geometry updates and ACTS readiness in exclusive meeting
  - Correct epic geometry for B0 ready and merged this week, ACTS working
  - Slides: https://indico.bnl.gov/event/20311/contributions/79782/attachments/49241/84048/B0_tracking_ACTS_Jentsch_8_21_2023.pdf

- Due to B0 change from ITS3+ACLGAD -> ACLGAD in general, want to check potential impact/degradation on p_T resolution

- Plan to focus some efforts checking B0 performance for exclusive processes
  - e.g. check $\Delta p_T/p_T$ Vs p; $\Delta p/p$ Vs p; generated Vs reconstructed acceptance
  - Working on this now for:
    - DVCS ep
    - backwards rho production
  - Possibly more to come from other analyses (e.g. on-going VM production, plan to look at DVMP pi0...)